Gulf Coast Job Creation and Workforce Development

A review of recent research studies and recommended strategies for local, state, and federal agencies

Paul Laperouse, Ryan McNeil, Christel Slaughter, Anna Stogner

Report prepared for Oxfam America

SSA Consultants

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We are grateful to the interview and focus group participants for their time, effort, and trust. The dredging contractors and subcontractors who assisted this work provided valuable insight into the demand occupations as well as into the training and skills needed for upcoming projects. Not-for-profit and nongovernmental organizations including Mary Queen of Vietnam (MQV), Total Community Action, Catholic Charities, United Houma Nation, Greater New Orleans, Inc. (GNO, Inc.), and others provided critical information regarding characteristics of the unemployed population and obstacles that this population faces in relation to employment and training. We appreciate the participation of organizations such as the Louisiana Community and Technical College System, PEC Premier, and DSC Dredging for identifying relevant training resources in Louisiana. The local Workforce Investment Boards (WIBs) provided great insight into the particulars relating to the administration of the National Emergency Grant funds while the Louisiana Workforce Commission (LWC) and Louisiana Economic Development (LED) identified other workforce development resources. The Louisiana Governor's Office on Coastal Affairs (OCA), Office of Coastal Protection and Restoration (OCPR) and Coastal Restoration and Protection Authority (CPRA) provided information on the proposed early Natural Resource Damage Assessment (NRDA) projects. The authors wish to thank the leaders as well as the staffs of all these organizations for their assistance in the research and analysis that resulted in this paper.

Introduction

Louisiana's coastal residents, who have long depended on the Gulf of Mexico for their livelihoods, have experienced more than their share of hardship and tragedy over the past several years as a result of natural and human-generated disasters, including hurricanes, high water events, and the BP Deepwater Horizon oil spill, the largest environmental disaster in US history.

In 2005, Hurricane Katrina battered the shores of southeastern Louisiana, destroying lives and property. Low-lying coastal areas were flooded and without power; winds damaged homes and businesses. The federal hurricane protection system surrounding New Orleans failed, and the city of New Orleans suffered billions of dollars in damage from floodwaters. As a result of the hurricane damage and widespread flooding, the city's tourism industry was devastated, and its world-famous restaurants and hotels were closed for an extended period of time. The state's seafood industry found itself with significant damage to its fleets and equipment, as well as a smaller market overnight, and the small businesses that support it were left stranded.

Just three years later, Hurricanes Ike and Gustav made landfall along the Louisiana coast, again damaging fishing fleets and disrupting the livelihoods of the state's citizens who live and work on the coast.

Then, an oil spill occurred in the Gulf of Mexico, disproportionately impacting Louisiana's coast, citizens, and resources. On April 20, 2010, the Deepwater Horizon drilling rig exploded and caught fire 50 miles off the Louisiana coast. Eleven men lost their lives and 4.9 million barrels of oil spilled into the Gulf unabated over 87 days. Approximately 650 miles of Louisiana's shoreline were oiled, and 37 percent of the open water in the Gulf was closed to fishing.

The hearty and resourceful people of the coast were once again subjected to the loss of jobs and livelihoods. This time, however, the perception of tainted seafood lived on well beyond the tragic incident; it has continued to plague the state's seafood industry, and has negatively affected the men, women, and children who depend on fresh seafood to support their way of life. In fact, at the time of this report's research, the long-term impact of the spill on vital coastal habitat areas and commercially important species is not known. Many residents and workers fear a collapse of fisheries and habitats similar to the failure of the Pacific herring fishery following the Exxon Valdez oil spill in 1989.

As part of the Oil Pollution Act, however, scientists have begun a Natural Resources Damage Assessment (NRDA) process to determine the injuries to

natural resources and lost public uses of these resources resulting from the spill. These scientists—including specialists from the National Oceanic and Atmospheric Administration (NOAA) and other natural resources trustees—utilize studies to identify the extent of resource injuries, the best methods for restoring those resources, and the type and amount of restoration required.

The NRDA process prescribes three steps: a preliminary assessment step, an injury assessment/restoration planning step, and a restoration implementation step. The process continues until the trustees have determined the full extent of damages caused by the oil spill.

The NRDA preliminary assessment step is ongoing, but on April 21, 2011, BP committed $1 billion to begin restoration of the natural resources that were injured as a result of the Deepwater Horizon oil spill. This down payment on BP's total NRDA liability is the largest of its kind ever made, and it provides an opportunity for natural resources trustees to begin implementing restoration projects prior to the completion of the NRDA.[1] Furthermore, this agreement represents an initial step toward fulfilling BP's obligation to fund the complete restoration of injured natural resources, including the loss of use of those resources.

On July 11, 2011, Gov. Bobby Jindal unveiled the "Louisiana Plan," which proposes 13 initial early-restoration projects, totaling approximately $533 million. The proposed projects support the goal of compensating the public for the natural resource injuries caused by the Deepwater Horizon oil spill and are consistent with Louisiana's Coastal Master Plan as well as the Louisiana Regional Restoration Planning Program (RRP Program). Additionally, they address the criteria outlined in the early restoration framework agreement and applicable regulations. Finally, these proposed projects reflect input from a diverse group of stakeholders and complement the overall restoration goals for Louisiana. Two of the 13 proposed projects were included in the Draft Phase I Early Restoration Plan and Environmental Assessment (Draft Phase I Plan),[2] which was released for public comment by the Deepwater Horizon natural resources trustees on Dec. 14, 2011. The two proposed projects selected for Draft Phase I include shoreline marsh creation and oyster cultch restoration, totaling more than $28 million.

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1 NOAA, "Framework for Early Restoration Addressing Injuries Resulting from the Deepwater Horizon Oil Spill," http://www.gulfspillrestoration.noaa.gov/wp-content/uploads/2011/05/framework-for-early-restoration-04212011.pdf.

2 NOAA, "Framework for Early Restoration Addressing Injuries Resulting from the Deepwater Horizon Oil Spill."

The early NRDA projects will create significant and meaningful workforce demands and opportunities for workers who have been displaced and unemployed or underemployed as a consequence of the BP disaster. In fact, for every $1 million spent on ecosystem restoration, an estimated 28 jobs can be created.[3] This statistic is encouraging given the numbers of workers along the Louisiana coast who lost their jobs and livelihoods as a result of the oil spill. Moreover, several industries, most notably the seafood industry, have been significantly impacted, and many of these industries and their workers still face an uncertain future. Training or retooling the skill set of a worker previously employed in the seafood industry—which may never fully recover—and preparing that worker for long-term, decent-wage employment related to projects proposed for coastal restoration will provide hope and dignity to a formerly self-sufficient, productive individual. The trained or retooled individual in turn supplies companies involved in the restoration efforts with a work-ready employee.

It should be noted that the threat of additional land loss to coastal communities and the commensurate loss of livelihoods and potential displacement from homes and jobs is top of mind for many individuals and businesses in the coastal parishes. Coupled with the financial strains and anxiety produced by the oil spill, both workers and employers find comfort in knowing that the NRDA is but one piece of the BP-related fines and penalties that support ecosystem restoration. Other funding may arise from legislation such as the Gulf Coast States Act or the Restore Act, as well as from fines resulting from pending litigation against BP. Significant additional resources are expected to be expended as the state of Louisiana begins to implement the 2012 Coastal Master Plan. These expenditures will highlight the need for a robust and well-trained labor market, and they underscore the state's commitment to coastal sustainability, given the estimated required investment of between $50 billion and $100 billion.

In response to the job losses and displacement of workers, the US Department of Labor (USDOL) awarded a $10 million National Emergency Grant (NEG) to the state of Louisiana on June 30, 2010, to provide employment-related assistance and retraining for people whose jobs were adversely affected by the oil spill. "This grant will help prepare people for other careers as they deal with the effects of the oil spill disaster on their lives, families, and communities," said Curt Eysink, executive director of the Louisiana Workforce Commission (LWC).[4]

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3 "Recommendations to the Gulf Coast Ecosystem Restoration Task Force: Enhancing the Resilience of the most vulnerable communities and building the restoration economy" (October 20, 2011). *Oxfam America.* Retrieved from http://www.oxfamamerica.org/files/gcertf-recommendationsfinal.pdf.

4 Louisiana Awarded $10 Million Federal Grant (June 30, 2010). *Office of the Governor.* Retrieved from http://emergency.louisiana.gov/Releases/06302010-grant.html.

According to Eysink, the initial assumption was that the full costs associated with providing employment services for all the people who ultimately may need them could be significantly greater than $10 million.[5] The grant was intended to serve approximately 1,200 people who were directly impacted by the oil spill, according to the Workforce Investment Boards (WIBs). However, program administrators have found the process of identifying and enrolling individuals who meet current eligibility criteria to be challenging. According to data shared by WIB administrators, by late January 2011, approximately 300 individuals of the 1,200 projected have utilized the NEG funds, leaving $8.5 million of the total grant remaining. As of this writing, millions in federal workforce development resources, which expire on June 30, 2013, are still unspent. [6]

The purpose of this report is to understand and identify the potential workforce demands related to Louisiana's early NRDA restoration projects and provide a detailed analysis of the skills and training needed to prepare unemployed and underemployed workers from the BP oil spill-affected parishes of Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, and Terrebonne for the positions needed to complete these projects. Although these early NRDA-proposed projects may shift in priority, the current list provides tremendous information and insight regarding the technology and skills that will be required for similar projects that might rise to the top of the list as the process progresses. Additionally, the Draft Phase I early restoration plan is the first of what could be many rounds of early and/or long-term restoration, resulting in restoration projects similar to those identified at this point. Finally, the report seeks to present recommendations for decision makers in workforce development agencies and the state of Louisiana to effectively prepare workers, especially those from vulnerable communities, for decent-wage jobs in high-demand occupations related to the dredging industry, utilizing the millions of dollars in remaining NEG funds dedicated to workforce development programs.

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5 Office of the Governor, "Louisiana Awarded $10 Million Federal Grant."

6 During the drafting of this report, officials in the Louisiana Workforce Commission confirmed that the State of Louisiana had been granted a one year extension by USDOL of their oil spill National Emergency Grant, with a new end date of June 30, 2013.

Methodology

One of the main objectives of this report was to identify the anticipated workforce needs of employers involved in NRDA early restoration projects in Louisiana. Specifically, our primary and secondary research focused on the demand occupations within the dredging industry and the skills and trainings needed to fill those positions. This research identified individuals (and groups representing them) in the BP oil spill–impacted areas who could be potential candidates for industry occupations. This study then determined the training needed. The geographical scope of the study encompassed Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, and Terrebonne parishes in Louisiana. This report synthesizes primary and secondary data collection and analysis.

The author of this study, SSA Consultants, was selected due to their familiarity with Louisiana's state coastal restoration and workforce programs and the industry, government and educational stakeholders who would be involved in a functional workforce system. Oxfam America has been working with many of these governmental and non-government stakeholders and had been urged to compile more concrete details of the workforce demand and challenges in putting in place workforce systems to help low income, under- and unemployed and disadvantaged coastal workers find employment on restoration projects. Oxfam commissioned the research and helped devise the research design, in collaboration with SSA Consultants.

Primary research included qualitative interviews and focus groups conducted in collaboration with the following organizations: the Louisiana Community and Technical College System (LCTCS) and other training providers, WIBs, the LWC, nongovernmental organizations (NGOs), the Coastal Protection and Restoration Authority (CPRA), the Coast Builders Coalition (CBC), the Louisiana Department of Natural Resources (DNR), and dredging companies and their subcontractors.

More than 50 interviews and follow-up discussions were held with individuals and leaders or key stakeholders representing the training providers, dredging companies and subcontractors, NGOs that work directly to link displaced workers to jobs or job training and workforce development, and state agencies with primary responsibilities for funding projects and placing workers in high-demand, living-wage jobs. Many of the individuals who were interviewed were suggested by Oxfam America, CBC, and CPRA leaders.

Interviews were conducted on-site or by telephone and participants were not compensated for their time or participation. Most of the subject-matter experts

taking part in the one-on-one interviews were responsive and forthcoming with information, data, and often, additional resources to add value to the study. The most challenging interviews were those held with general managers, vice presidents, and human resources (HR) managers from dredging companies or their subcontractors. Many of these individuals were located outside of Louisiana and/or their companies were short-staffed; some of these individuals had difficulty understanding the focus and potential benefits of participating in the research study. Some participants were reluctant to share data about employee shortages, about the projects they were interested in pursuing, or about the wages they paid their staff. This reluctance to share information was overcome by personal contacts made by relevant state or CBC leaders who communicated the value of the study and assured anonymity.

Three focus groups were held with three key stakeholder groups to validate data gathered through desk research or in the qualitative, one-on-one interviews. The first focus group, held in New Orleans at the office of Catholic Charities, consisted of representatives of NGOs that worked directly with unemployed and underemployed workers in the coastal parishes. Many of these participants knew one another and had worked together over long periods of time to identify, train, and place workers in decent-wage jobs. This particular focus group was recorded to ensure accuracy of information gathered.

A second focus group, held in Baton Rouge at the offices of SSA Consultants, was composed of industry representatives and workforce training and development experts. The membership of this focus group was diverse, and several participants benefited from learning about training resources and opportunities just by attending the focus group session. As was seen in the interviews with general managers, vice presidents, and HR managers, there was some reticence to share proprietary data with competitors in the room. Validation of data was completed through follow-up phone calls.

The third focus group was held in the office of one of the WIBs in a coastal parish. This focus group was homogeneous, and the members' homogeneity allowed for free-flowing information about high-demand jobs, training needs, and challenges and opportunities for improvement in the workforce development system.

Interviews and focus groups explored topics such as the characteristics of the unemployed and underemployed individuals in the oil spill–affected communities; the opportunities for skill transfer and prior relevant experience; the challenges/barriers to being retrained; and the unique challenges posed by the cultural norms and beliefs held by the workers and their families.

Secondary research involved analyzing and synthesizing findings from the following sources.

- Duke University Center on Globalization, Governance & Competitiveness, "Restoring the Gulf Coast: New Markets for Established Firms."
- Greater New Orleans, Inc. (GNO, Inc.), "Analysis of the Emerging Coastal Restoration, Hurricane Protection, Disaster Mitigation and Water Management Industries," and Jeremy Stone, "Fisheries Focus Groups: A Summary and Discussion of Findings" (GNO, Inc./Chevron Coastal Vitality Project).
- LWC, "Coastal Restoration Spending in Louisiana: Economic Impact Analysis," "Career Pathway: Construction," and "Louisiana Labor Force Diversity Data."
- Kate Gordon, Jeffrey Buchanan, and Philip Singerman, "Beyond Recovery: Moving the Gulf Coast Toward a Sustainable Future"(Oxfam America and Center for American Progress), and Oxfam America, "Recommendations to the Gulf Coast Ecosystem Restoration Task Force."
- Environmental Defense Fund, "Profiles in Restoration: Job Creation Through Rehabilitation of the Central Wetlands Unit."

Furthermore, a list of industry demand occupations was developed based on input from dredging companies and similar contractors. The list of occupations was combined with the occupations mentioned in GNO, Inc.'s "Analysis of the Emerging Coastal Restoration, Hurricane Protection, Disaster Mitigation and Water Management Industries," which captured the projected industry workforce demand. The list was then compared with LWC's list of demand occupations to identify which of the industry positions qualified as Level 1 demand occupations in the two targeted regional labor market areas (RLMAs) in which the six parishes under study are found. RLMA 1 contains four of these parishes—Jefferson, Orleans, Plaquemines, and St. Bernard—as well as four not being studied (St. Charles, St. James, St. John the Baptist, and St. Tammany parishes). RLMA 2 includes the remaining two of the parishes being examined—Lafourche and Terrebonne parishes—as well as Assumption Parish.

SSA Consultants identified which of the industry demand occupations qualify as Level 1 demand occupations to determine eligibility of training programs for NEG funding. A Level 1 demand occupation as defined by LWC is any occupation that appears on the Top Demand Occupations list for a particular region as approved by the Occupational Forecasting Conference (OFC) and is automatically considered a demand occupation for Workforce Investment Act

(WIA) purposes. Tables were created that outline these Level 1 demand occupations and include average annual wages from 2010, a 2008 estimate of the number of people in each position, and the projected annual demand for each occupation. Then, data gathered regarding educational, training, and license/certification requirements for each position were compiled to create a comprehensive listing of the industry and occupational and training needs to meet projected market demand. A listing of the various kinds of Level 1 demand occupations appears later in this report.

Proposed early NRDA restoration projects in Louisiana

In an effort to expedite the restoration of natural resources injured by the Deepwater Horizon oil spill, BP has agreed in principle to fund approximately $1 billion in early restoration projects. Potential projects include restoration of coastal marshes, barrier islands, and damaged beaches; enhancing the human use of natural resources; and conserving sensitive areas of ocean habitat for wildlife affected by the oil spill.[7] The NRDA process requires that proposed early restoration projects meet certain criteria set forth in the Oil Pollution Act of 1990 (OPA) NRDA regulations and the 2011 early restoration agreement (known as the framework agreement).[8]

Beyond the legal regulations, trustees select projects based on four practical considerations to further narrow selections:

- They take into consideration how quickly a project may produce environmental benefits.
- They seek out diversity among projects to provide benefits to a broad array of potentially injured resources.
- They focus on projects that are familiar to them in order to estimate costs.
- They give preference to projects that are closer to being ready to implement.[9]

The "Louisiana Plan" of proposed early NRDA expenditures prioritizes the following 13 early restoration project proposals. The combined cost of these projects is approximately $533 million.

1. The *Barataria Basin Barrier Shoreline Restoration Project* focuses on restoring the physical function of the Barataria Basin Barrier Island. Because the shoreline and coastal marshes of Caminada Headland and Shell Island were damaged by the oil spill, restoration of the shoreline and marshes is needed to reinstate critical habitat, recover form and function, and permit long-term

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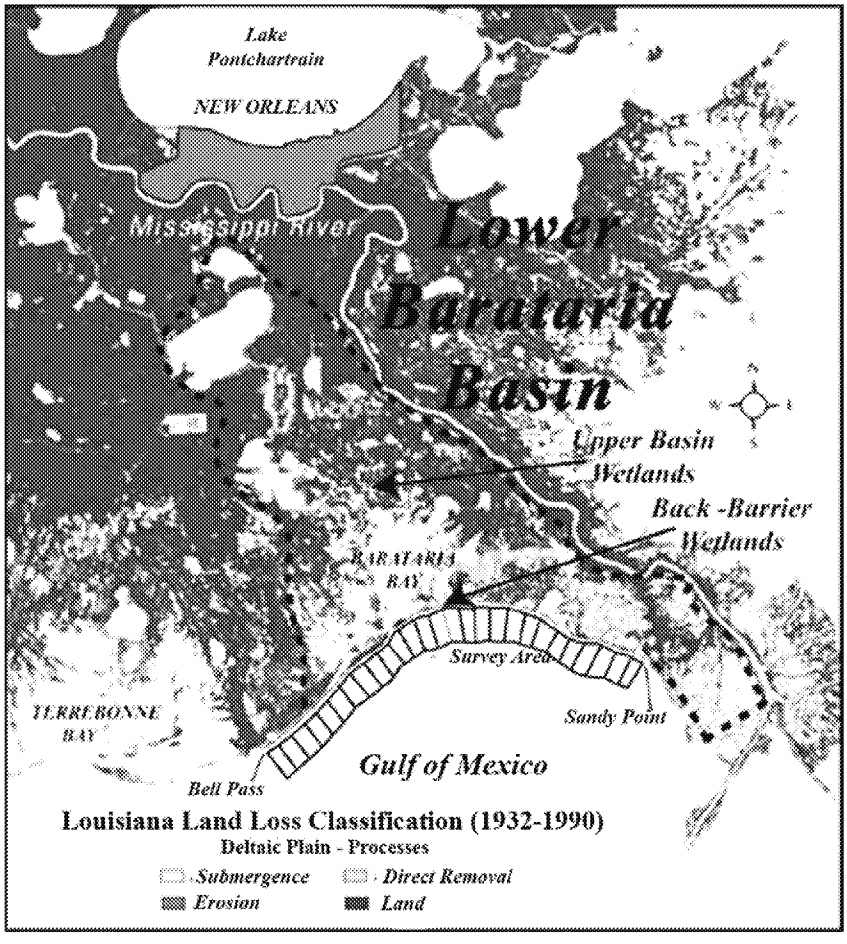
7 National Oceanic and Atmospheric Administration (NOAA), "Gulf Spill Restoration: Early Restoration" (last modified 2012), http://www.gulfspillrestoration.noaa.gov/restoration/early-restoration/.

8 National Oceanic and Atmospheric Administration (NOAA), "Deepwater Horizon Natural Resource Damage Assessment: Early Restoration Project Selection Criteria" (January 2012), http://www.gulfspillrestoration .noaa.gov/wp-content/uploads/TC_Toolkit_Early_Rest_Criteria_Winter-2012-FINAL.pdf.

9 NOAA, "Deepwater Horizon Natural Resource Damage Assessment: Early Restoration Project Selection Criteria," 2.

sustainability of the barrier shoreline. The project will be divided into two separate projects based on locations: Caminada Headland and Shell Island.[10]

The Caminada Headland is located along the southern edge of Caminada Bay, between Port Fourchon and Grand Isle, at the southern end of Lafourche Parish and Jefferson Parish. The project encompasses 1,186 acres, and its estimated cost is $75 million.[11]



[12]

2. *The Shell Island Project* is located approximately 49 miles south-southeast of New Orleans in Plaquemines Parish. The remnants of Shell Island are located between Fontanelle Pass (Empire Jetties) and Grand Bayou Pass. This project

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[10] Louisiana Coastal Area (LCA), "Barataria Basin Project Description," http://www.lca.gov/Projects/4/Default.aspx.

[11] Coastal Protection and Restoration Authority (CPRA), "Proposed Early Restoration Projects," http://www.lacpra.org/assets/docs/NRDA/July122011Early%20NRDA%20Restoration%20Proposed%20Projects.pdf.

[12] Kindinger, Jake, "Barataria Barrier-Shoreline Feasibility Study," June 2000. http://soundwaves.usgs.gov/2000/06/index.html.

aims to create 339 acres of dune/beach and 351 acres of marsh; its estimated cost is $110 million.[13]

The restoration of shoreline and protection at Caminada Headlands and Shell Island are needed to help in stabilizing their physical features and reducing shoreline loss.[14] "Materials will be pumped from offshore (Caminada) and riverine (Shell Island) sources to restore the dune, shoreline, and interior marsh habitats. The restoration of the shoreline and marsh will protect the interior marsh and ridge habitats for essential fish and wildlife species by providing a buffer from the marine influences of the Gulf of Mexico."[15]

3. *The Bay Side Segmented Breakwater at Grand Isle Project* focuses on the construction of six 300-foot breakwaters (approximately 1.5 miles total) to benefit beach and backbarrier marsh. The breakwaters will compensate for injured backbarrier beach and marsh in the Barataria hydrologic basin from the Deepwater Horizon oil spill.[16]

   The project is located in Jefferson Parish along the bay side of Grand Isle; its estimated project cost is $3.3 million.[17]

4. *The Biloxi Marsh Shoreline Protection Project Phase* 2 focuses on protection of existing interior brackish marsh. The protection will compensate for injured brackish marsh in the Lake Pontchartrain hydrologic basin from the Deepwater Horizon oil spill.[18]

   The project is located on the southeast shoreline of Lake Borgne to the southeast of Lake Pontchartrain. It will encompass 6.5 to 7.5 miles of breakwater, and its rounded estimated cost is $45 million.[19]

5. *The Louisiana Oyster Cultch Project* focuses on producing seed-sized and sack-sized oysters on public sector seed grounds to compensate for oysters injured by oil and/or dispersant and by other removal activities. The project consists of two parts: oyster cultch placement onto public seed grounds and

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13 CPRA, "Proposed Early Restoration Projects."

14 LCA, "Barataria Basin Project Description."

15 LCA, "Barataria Basin Project Description."

16 CPRA, "Proposed Early Restoration Projects."

17 CPRA, "Proposed Early Restoration Projects."

18 CPRA, "Proposed Early Restoration Projects."

19 CPRA, "Proposed Early Restoration Projects."

construction of an oyster hatchery facility. The estimated cost of the project is $14.9 million.[20]

The first part of the project involves placing cultch material across 850 acres of public oyster seed grounds. Specific locations of this project include Three Mile Bay, Drum Bay, Lake Fortuna, South Black Bay, Hackberry Bay, and Sister Lake. Cultch material used in this project consists of limestone rock, crushed concrete, and oyster shell.[21]

The second part of the project involves constructing an oyster hatchery facility in Grand Isle to accelerate the cultch placement success. Brood stock maintenance, algal cultivation, and larvae production will all take place in the hatchery and nursery facility with an expected 1 billion eyed larvae per season produced.[22]

6. *The Lake Hermitage Marsh Creation Project* "involves the creation of marsh within a project footprint known as the 'Lake Hermitage Marsh Creation Project' developed for and funded through the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Program. This proposal substitutes approximately 104 acres of created brackish marsh for approximately five to six acres of earthen terraces that would otherwise have been constructed within the CWPPRA project boundary."[23] Its estimated cost is $13.2 million.[24]

   This project has two goals: first, to reduce erosion and prevent breaching into the interior marsh by restoring the eastern Lake Hermitage shoreline, and second, to recreate brackish marsh in the open water south and southeast of Lake Hermitage, which was injured and lost in the BP oil spill.[25]

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20 Louisiana NRDA, "Draft Phase I Early Restoration Plan: Louisiana Oyster Cultch Project" (December 2011), http://www.gulfspillrestoration.noaa.gov/wp-content/uploads/2011/12/LouisianaOysterCultch.pdf.

21 Louisiana NRDA, "Draft Phase I Early Restoration Plan: Louisiana Oyster Cultch Project."

22 Louisiana NRDA, "Draft Phase I Early Restoration Plan: Louisiana Oyster Cultch Project."

23 Louisiana NRDA, "Draft Phase I Early Restoration Plan: Lake Hermitage Marsh Creation—NRDA Early Restoration Project" (December 2011), http://www.gulfspillrestoration.noaa.gov/wp-content/uploads/2011/12/LakeHermitageMarsh.pdf.

24 Louisiana NRDA, "Draft Phase I Early Restoration Plan: Lake Hermitage Marsh Creation."

25 Louisiana NRDA, "Draft Phase I Early Restoration Plan: Lake Hermitage Marsh Creation."

The project is located in Plaquemines Parish within the Barataria hydrologic basin, west of the community of Point à la Hache and northwest of the community of Magnolia.[26]

7. *The Saltwater Fisheries Enhancement and Science Center Project* benefits coastal fisheries that were injured during the Deepwater Horizon oil spill.[27]

   The project is located in three locations: the Southeastern coast, a 20-acre site in Plaquemines Parish; the south-central coast, which houses the Marine Research Laboratory on Grand Isle in Jefferson Parish; and the southwestern coast, 90 acres located along the coast in the southwest, to be identified. The overall project's estimated cost is $48 million.[28]

8. *The West Grand Terre Beach Nourishment Project* benefits beach/dune and backbarrier marsh to compensate for injured beach/dune and marsh in the Barataria hydrologic basin.[29]

   The project is located on the Gulf side of West Grand Terre Island, within the barrier island complex along the south-central part of Barataria Bay in Jefferson Parish. It will provide approximately 120 acres with beach nourishment; its estimated cost is $9 million.[30]

9. *The West Grand Terre Island Stabilization Project* will benefit backbarrier beach and marsh in the Barataria hydrologic basin to compensate for beach and marsh that were injured from the Deepwater Horizon oil spill.[31]

   The project is located on the Barataria Bay side of West Grand Terre Island in Jefferson Parish. It encompasses 11,000 feet of protection; its estimated cost is $3 million.[32]

10. *The Caillou Lake Land Bridge Project* focuses on reducing the current trend of marsh degradation between the Gulf of Mexico and Caillou Lake, also known as Sister Lake. Erosion of up to 18 feet per year at the marsh edge has been seen. Continued erosion and degradation are expected if no intervention

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26 CPRA, "Proposed Early Restoration Projects."

27 CPRA, "Proposed Early Restoration Projects."

28 CPRA, "Proposed Early Restoration Projects."

29 CPRA, "Proposed Early Restoration Projects."

30 CPRA, "Proposed Early Restoration Projects."

31 CPRA, "Proposed Early Restoration Projects."

32 CPRA, "Proposed Early Restoration Projects."

takes place, "allowing increased influence of Gulf of Mexico waters that would adversely affect the state-designated oyster seed ground in Caillou Lake."[33]

This project area is located approximately 38 miles southeast of Morgan City, southeast of the Atchafalaya River in Terrebonne Parish. It encompasses 1,600 acres of salt marsh; its estimated cost is $71 million.[34]

11. *The Chenier Ronquille Barrier Island Restoration Project* benefits coastal habitat in the Barataria hydrologic basin in order to compensate for injured beach and marsh.[35]

    The project is located within the Barataria Basin portion of Plaquemines Parish, approximately eight miles east of Grand Isle, 33 miles west-northwest of the Mississippi River Delta, and 47 miles south-southeast of New Orleans. It encompasses 127 acres beach/dune and 259 acres of marsh; its estimated cost is $44 million.[36]

12. *The Grand Liard Marsh and Ridge Restoration Project* benefits coastal habitat by restoring 18,000 linear feet of ridge, creating 328 acres of marsh, and restoring and nourishing 140 acres of marsh. This restoration project is designed to compensate for injured salt marsh in the Barataria Basin from the Deepwater Horizon oil spill.[37]

    The project is located within the Barataria Basin portion of Plaquemines Parish, extending from approximately two to six kilometers south of Triumph. Its estimated cost is $31.3 million.[38]

13. *The Chandeleur Islands Restoration Project* focuses on barrier island restoration and vegetation in order to prevent erosion. The project is located in Saint Bernard and Plaquemines parishes; its estimated cost is $65 million.[39]

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33 LCA, "Land Bridge Between Caillou Lake and Gulf of Mexico" project description, http://www.lca.gov/Projects/6/Default.aspx.

34 CPRA, "Proposed Early Restoration Projects."

35 CPRA, "Proposed Early Restoration Projects."

36 CPRA, "Proposed Early Restoration Projects."

37 CPRA, "Proposed Early Restoration Projects."

38 CPRA, "Proposed Early Restoration Projects."

39 CPRA, "Proposed Early Restoration Projects."

Two of the proposed projects, the Louisiana Oyster Cultch Project and the Lake Hermitage Marsh Creation Project (numbers 5 and 6 above), were included in the Draft Phase I Early Restoration Plan and Environmental Assessment (Draft Phase I Plan). The Deepwater Horizon NRDA trustees released this plan for 60-day public comment period on Dec. 14, 2011. Barring no major complications or delays, if included in the final Phase I Plan, these two Louisiana projects will likely be implemented in 2012.

At the time of this report's publication a definitive implementation schedule, identifying the timing and sequencing of the remaining 11 projects has not been determined. The NRDA trustees are committed to expediting future rounds of NRDA early restoration. It is expected that the implementation of these remaining projects will extend beyond the 2012 timeframe.

Demand occupations with decent wages

Interviews and focus groups with ecosystem restoration industry companies identified occupations that are expected to be in high demand in the upcoming early restoration projects. Estimating the magnitude of hiring for these occupations is difficult owing to uncertainty about the actual timing and sequencing of the projects. However, companies have a good sense of the types of skills that will be needed; these skills range from engineering and project management to equipment operation and entry-level labor.

Similar demand occupations were identified through secondary research. GNO, Inc. reported business leaders' hiring predictions based on forthcoming NRDA projects. Several of the demand occupations listed in GNO, Inc.'s industry survey on workforce development needs for restoration projects were similar to those identified by industry professionals during the focus groups for this research study.[40]

By combining the information we gathered from industry interviews with our secondary research we managed to identify nine demand occupation classes. Each occupational class comprises a range of job titles, based on skill sets that were specified by industry leaders.

For a given job title within an occupational class to be eligible for NEG-funded training, it must be designated as a Level 1 demand occupation within the targeted RLMA. For the purposes of this study, as noted in the methodology section, we have targeted the two RLMAs in which the six parishes of this study are located: RLMA 1 and RLMA 3.[41] The LWC defines a Level 1 demand occupation as any occupation that appears on the Top Demand Occupations list for a particular region, as approved by the Occupational Forecasting Conference (OFC).

The specific jobs within each of the nine demand occupation classes that meet the Level 1 demand criteria for both RLMA 1 and RLMA 3, and, therefore, qualify for NEG funding, are detailed in the tables below. These nine occupational

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40 Greater New Orleans, Inc. (GNO, Inc.), "Analysis of the Emerging Coastal Restoration, Hurricane Protection, Disaster Mitigation and Water Management Industries" (January 2012).

41 RMLA 1 covers four of these parishes—Jefferson, Orleans, Plaquemines, and St. Bernard—in addition to St. Charles, St. James, St. John the Baptist, and St. Tammany parishes. RLMA 3 contains the remaining two—Lafourche and Terrebonne parishes—as well as Assumption Parish.

classes and the respective job titles within each serve as the targeted demand occupations for the remainder of this report.

Table 1. Demand occupation: Field technicians

Demand occupation subtitles	Occupational code	RLMA* designation	2010 regional annual average wage	2008 occupational employment estimate	Total annual demand
Quality control technician	51-9061	1	$40,921	1,520	30

Source: Louisiana Workforce Commission, "Occupations in Demand List to 2009," available at http://www.laworks.net/LaborMarketInfo/LMI_OccDemandList.asp?years=20072009.

The first job classification that qualifies as a Level 1 demand occupation is field technicians, specifically quality control technicians. NEG grant eligibility for this demand occupation is located in RLMA 1. In 2008, 1,520 people occupied this position in RLMA 1. The total annual demand, which is defined by LWC as a function of replacement (retirements plus turnover) plus new growth is approximately 30 people per year. Put another way, the projected annual growth in demand for this position, based on 2008 occupancy figures, is approximately 2 percent.

Table 2. Demand occupation: Operating engineers and other construction equipment operators

Demand occupation subtitles	Occupational code	RLMA designation	2010 regional annual average wage	2008 occupational employment estimate	Total annual demand
Marsh excavator operator	47-2073	1	$38,954	2,180	40
Dozer operator					
Heavy equipment operator		3	$37,586	710	30
Heavy land equipment operator					

Source: Louisiana Workforce Commission, "Occupations in Demand List to 2009," available at http://www.laworks.net/LaborMarketInfo/LMI_OccDemandList.asp?years=20072009.

Operating engineers and other construction equipment operators include marsh excavator operators, dozer operators, and other heavy equipment operators. These jobs have been classified as Level 1 demand occupations in both RLMA 1 and 3. In RLMA 1, the regional annual average wage for this occupational class

was $38,954. There were 2,180 people occupied in this position in 2008 and the total annual demand for these positions is projected to grow at 2 percent per year. In RLMA 3 the regional annual average wage was $37,586. There were 710 people occupied in this position in 2008 and the total annual demand for these positions is projected to grow at 4.2 percent per year.

Table 3. Demand occupation: Ship and boat captains

Demand occupation subtitles	Occupational code	RLMA designation	2010 regional annual average wage	2008 occupational employment estimate	Total annual demand
USCG-certified captains	53-5021.01	1	$72,839	2,300	70
Dredge captains					
100-ton captains with towing endorsement					
Dredge/drag tender operators					
Chief engineers		3	$75,082	3,870	230
Tugboat/tender boat operators					
USCG-licensed deck officers					
Mates	53-5021.02				
Ship engineers	53-5031	3	$62,271	630	40

Source: Louisiana Workforce Commission, "Occupations in Demand List to 2009," available at http://www.laworks.net/LaborMarketInfo/LMI_OccDemandList.asp?years=20072009.

The occupational class of ship and boat captains includes US Coast Guard (USCG) captains, dredge operators, 100-ton captains with towing endorsement, dredge/drag tender operators, chief engineers, tugboat/tender boat operators, USCG-licensed deck officers, mates, and ship engineers. The average annual wages within this group range from $62,271 to $75,082. The annual demand for ship and boat captains in RLMA 1 is projected to grow at 70 jobs per year, or 3 percent. By contrast, the expected annual demand of 230 captains in RLMA 3 represents a growth rate of 6 percent. The same 6 percent rate of growth is expected in RLMA 3 for ship engineers.

Table 4. Demand occupation: Deckhands

Demand occupation subtitles	Occupational code	RLMA designation	2010 regional annual average wage	2008 occupational employment estimate	Total annual demand
Licensed mariners	53-5011	1	$37,561	2,770	110
Oilers					
Shoremen					
Deckhands		3	$41,115	2,920	190
Able-bodied seamen					

Source: Louisiana Workforce Commission, "Occupations in Demand List to 2009," available at http://www.laworks.net/LaborMarketInfo/LMI_OccDemandList.asp?years=20072009.

Deckhands that are considered demand occupations in RLMA 1 and 3 include licensed mariners, oilers, shoremen, deckhands, and able-bodied seamen. The average annual income for this group ranges from $37,561 to $41,115. Annual demand within this occupational group is expected to grow at a rate of 4 percent in RLMA 1 and 6.5 percent in RLMA 3.

Table 5. Demand occupation: General laborers

Demand occupation subtitles	Occupational code	RLMA designation	2010 regional annual average wage	2008 occupational employment estimate	Total annual demand
Shoreside laborer (pipe and sprinkler)	53-7062	1	$22,596	12,340	400
		3	$23,316	3,190	120
Cooks	35-2012	1	$20,462	2,020	70
		3	N/A	N/A	N/A
Field hands	47-2061	1	$27,171	6,530	50
Construction laborers					
Marine yard workers					
Cleaners of vehicles and equipment	53-7061	1	$22,850	1,210	50

Source: Louisiana Workforce Commission, "Occupations in Demand List to 2009," available at http://www.laworks.net/LaborMarketInfo/LMI_OccDemandList.asp?years=20072009.

General laborers include shoreside laborers (pipe and sprinkler), field hands, cooks, construction laborers, marine yard workers, and cleaners of vehicles and equipment. Average annual wages range from $20,462 to $27,171 in this occupational class. The projected annual demand growth for these jobs ranges

from 3 percent to 4 percent, with the exception of the construction laborers group, which is projected to grow at 1 percent.

Table 6. Demand occupation: Marine and heavy equipment maintenance and repair technicians

Demand occupation subtitles	Occupational code	RLMA designation	2010 regional annual average wage	2008 occupational employment estimate	Total annual demand
Welders	51-4121	1	$41,000	4,040	90
		3	$39,160	3,130	180
Machinists	51-4041.00	3	$39,241	840	40
Fitters	51-4121.06	1	$41,000	4,040	90
		3	$39,160	3,130	180
Engine room assistants	49-9098	1	$25,056	1,070	30
Mechanics (heavy equipment)	49-3042	1	$39,859	1,470	30

Source: Louisiana Workforce Commission, "Occupations in Demand List to 2009," available at http://www.laworks.net/LaborMarketInfo/LMI_OccDemandList.asp?years=20072009.

Marine and heavy equipment maintenance and repair technicians include welders, machinists, fitters, engine room assistants, and mechanics. Average annual wages in this occupational class range from $25,056 to $41,000. Projections indicate that annual demand for this occupational group will grow at rates between 5 percent and 7 percent, with the exception of the occupations of welders, fitters, engine room assistants, and mechanics in RLMA 1, which are projected to grow between 2 percent and 3 percent.

Table 7. Demand occupation: Engineering and technical professionals

Demand occupation subtitles	Occupational code	RLMA designation	2010 regional annual average wage	2008 occupational employment estimate	Total annual demand
Port engineers	53-5031.00	3	$62,271	630	40

Source: Louisiana Workforce Commission, "Occupations in Demand List to 2009," available at http://www.laworks.net/LaborMarketInfo/LMI_OccDemandList.asp?years=20072009.

Engineering and technical professional positions that are considered a demand occupation in RLMA 3 include port engineers. The average annual wage for this occupation was $62,271. Approximately 630 positions in this occupation were

held in 2008 and the total annual demand is estimated at 40 people per year, a 6 percent growth rate.

Table 8. Demand occupation: Light equipment operators

Demand occupation subtitles	Occupational code	RLMA designation	2010 regional annual average wage	2008 occupational employment estimate	Total annual demand
Tractor operators	53-7051	1	$31,218	1,550	40

Source: Louisiana Workforce Commission, "Occupations in Demand List to 2009," available at http://www.laworks.net/LaborMarketInfo/LMI_OccDemandList.asp?years=20072009.

Tractor operators are considered to be a demand occupation in RLMA 1. The average annual wage was $31,218. Approximately 1,550 people held this position in 2008, and the total annual demand for this position is projected to grow at 2.5 percent.

Table 9. Demand occupation: Management and supervisory professionals

Demand occupation subtitles	Occupational code	RLMA designation	2010 regional annual average wage	2008 occupational employment estimate	Total annual demand
Project managers	17-2051	1	$78,924	970	30
Project engineers					
Construction supervisors	47-1011	1	$56,886	3,060	40

Source: Louisiana Workforce Commission, Occupations in Demand List to 2009, available at http://www.laworks.net/LaborMarketInfo/LMI_OccDemandList.asp?years=20072009.

Management and supervisory professionals such as project managers and construction supervisors are considered high-demand occupations in RLMA 1. The average annual wage within this group ranges from $56,886 to $78,924. Construction supervisors held 3,060 positions in 2008, while project managers and project engineers held 970 positions in each occupation. Approximately 30-40 people per year are needed for this occupation.

Training and career pathway opportunities

Overview

Based on the information obtained through interviews, most of the entry-level demand occupations in ecosystem restoration require little in terms of technical knowledge, skills, and experience, but they do require intense labor.[42] According to some industry experts, it is more important that potential workers have a willingness to do the work rather than knowledge and skills associated with the position.[43]

Research shows that through on-the-job training and experience, workers gain access to promotions and opportunities for highly skilled jobs. Laborers and operators have the ability to become supervisors,[44] and construction equipment operators have the ability to become supervisors, trainees for higher-level positions, or contract business owners.[45]

Other jobs require certifications or specialized skills in order to progress into higher positions. Experience can move installation, maintenance, and repair workers from simple tasks to more complex tasks, but certifications are usually needed in order to advance into higher positions.[46] Advancement for quality control workers usually takes the form of additional duties and responsibilities rather than higher positions, which are filled by workers who have thorough knowledge of the industry—such as experienced assemblers, machine operators, or mechanics.[47]

With experience being the driver of most upward mobility opportunities in the ecosystem restoration industry, starting off in an entry-level position may be required, but reaching a supervisory position is possible. With this in mind,

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42 Interview with Chris Watters, C.F. Bean Corporation, January 17, 2011.

43 Watters interview.

44 United States Department of Labor, Bureau of Labor Statistics, *Occupational Outlook Handbook*, 2010-11 edition, http://www.bls.gov/oco/ocos248.htm. Hereafter cited as: BLS, *Occupational Outlook Handbook*.

45 BLS, *Occupational Outlook Handbook*, "Construction Equipment Operators," http://www.bls.gov/oco/ocos255.htm.

46 BLS, *Occupational Outlook Handbook*, "General Maintenance and Repair Workers," http://www.bls.gov/oco/ocos194.htm.

47 BLS, *Occupational Outlook Handbook*, Inspectors, Testers, Sorters, Samplers, and Weighers, http://www.bls.gov/oco/ocos220.htm.

preparing workers for entry-level positions can provide them not only with a job but also with a long-term career opportunity.

To prepare unemployed and underemployed workers for potential new jobs within the ecosystem restoration industry, it is necessary to identify targeted trainings for demand occupations. Delineations between occupations that can be obtained through minimal training and experience and those that require more formal, long-term education and certification are important and must be made. Thus, this report classifies training and needed experience as follows.

- Short-term training and experience typically means up to one month of on-the-job experience and may include informal training.
- Moderate-term training and experience means one to 12 months of combined on-the-job experience and informal training.
- Long-term training and experience means more than 12 months of on-the-job-training and postsecondary vocational training.[48]

According to industry representatives, many of the demand occupations provide significant career opportunities for promotion while requiring minimal experience and training to obtain. Occupations such as deckhands are described by the industry as an "entry-level position with unlimited career potential."[49] Experience is seen as the main driver of upward mobility. The challenge is that hard work, remote locations, long hours, and harsh working environments define most of these entry-level occupations,[50] and consequently, high turnover rates are seen throughout the industry at this level. Workers who persevere through the difficult entry-level position conditions and who are able to gain experience, acquire skills, and take advantage of additional training, however, have the potential to move into higher-paid management positions without breaks in employment or significant investment of time or money outside of the job and normal workweek.

The following demand occupations require certification or training and experience for promotion and advancement.

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48 O*Net OnLine, http://www.onetonline.org.

49 Noel Ramos, personnel director at Weeks Marine, personal interview with SSA Consultants, January 17, 2011.

50 Ramos interview.

Field technicians

Table 10. Training needed and license/certification requirements for field technicians

Demand occupation subtitles	Occupation code	Most significant source of education or training	Occupational license/ certification required
Quality control technicians	51-9061	Moderate-term training and experience	Certification available

Source: O*Net OnLline, "Summary Report for Inspectors, Testers, Sorters, Samplers, and Weighers," http://www.onetonline.org/link/summary/51-9061.00.

Obtaining a position as a field technician, more specifically, as a quality control technician, usually requires moderate-term training and experience. On-the-job training is typically the preferred method of employers. Additional training may concentrate on the use of special meters, gauges, computers, and other instruments. Training may also focus on quality control techniques, blueprint reading, safety, and reporting requirements.[51]

Multiple certifications are available through the American Society for Quality, including some that require several years of experience and an exam. The most notable certification relevant to the dredging industry is the US Army Corps of Engineers Construction Quality Management (CQM) certificate. Having a CQM-certified employee on staff allows contractors to meet the Corps' construction contract requirements.

Advancing in this occupation usually consists of being responsible for more complex tasks, rather than moving to a higher position. Such positions within quality control are typically given to experienced assemblers, machine operators, or mechanics who have thorough knowledge in the industry's products and production processes.[52]

[51] BLS, *Occupational Outlook Handbook*, "Inspectors, Testers, Sorters, Samplers, and Weighers," http://www.bls.gov/oco/ocos220.htm.

[52] BLS, *Occupational Outlook Handbook*, "Inspectors, Testers, Sorters, Samplers, and Weighers."

Operating engineers and other construction equipment operators

Table 11. Training needed and license/certification requirements for operating engineers and other construction equipment operators

Demand occupations subtitles	Occupation code	Most significant source of education or training	Occupational license/certification required
Marsh excavator operators	47-2073	Moderate-term training and experience	Certification available
Dozer operators			
Heavy equipment operators			
Heavy land equipment operators			

Source: O*Net OnLine, "Summary Report for Operating Engineers and Other Construction Equipment Operators," http://www.onetonline.org/link/summary/47-2073.00.

Construction equipment operators—including marsh excavator operators, dozer operators, heavy equipment operators, and heavy land equipment operators—typically require moderate-term training and experience. For these positions, companies tend to prefer hiring high school graduates, preferably those who have taken courses in science and mechanical drawing. Initially, experienced operators usually guide beginners in working with light equipment; mastery is followed by learning to operate heavier equipment such as bulldozers. Because many machines contain computerized controls and electronics, more advanced training and understanding of electronics and computers are often needed.[53]

Experience in operating heavy equipment and mechanical aptitude are important factors employers look for when hiring for this position. If operators are hauling equipment from one job site to another, state law may require a commercial driver's license.[54]

Depending on the employer, certifications may or may not be needed; certifications enhance a job applicant's chances to be hired, however. These certifications are geared towards specific types of equipment rather than a

[53] BLS, *Occupational Outlook Handbook*, "Construction Equipment Operators," http://www.bls.gov/oco/ocos255.htm.

[54] BLS, *Occupational Outlook Handbook*, "Construction Equipment Operators."

general industry certificate.[55] Through certifications, experience, and training operators have the potential to advance to a supervisory role.[56]

Ship and boat captains and deckhands

Table 12. Training needed and license/certification requirements for ship and boat captains and deckhands

Demand occupations subtitles	Occupation code	Most significant source of education or training	Occupational license/ certification required
USCG-certified captains	53-5021.01	Work experience in a related occupation	License required
Dredge captains	53-5021.01		
100-ton captains with towing endorsement	53-5021.01		
Dredge/drag tender operators	53-5021.01		
Chief engineers	53-5021.01		
Tugboat/tender boat operators	53-5021.01		
USCG-licensed deck officers	53-5021.01		
Mates	53-5021.02		
Ship engineers	53-5031	Postsecondary vocational	
Deckhands			
Licensed mariners	53-5011.00	Short-term training and experience	License required
Oilers	53-5011.00		
Shoremen	53-5011.00		
Deckhands	53-5011.00		
Able-bodied seamen	53-5011.00		
Engineering and technical professionals			
Port engineers	53-5031.00	Postsecondary vocational	

Source: O*Net OnLine, "Summary Report for Ship and Boat Captains," http://www.onetonline.org/link/summary/53-5021.01; "Summary for Mates, Ship, Boat, and Barge," http://www.onetonline.org/link/summary/53-5021.02; Summary Report for Ship Engineers," http://www.onetonline.org/link/summary/53-5031.00; and "Summary Report for Sailors and Marine Oilers," http://www.onetonline.org/link/summary/53-5011.00.

[55] BLS, *Occupational Outlook Handbook*, "Construction Equipment Operators."

[56] BLS, *Occupational Outlook Handbook*, "Construction Equipment Operators."

Water transportation occupations require varying levels of experience and training, depending on the specific job description. For example, ship and boat captains are usually hired based on work experience in a related occupation; deckhands typically require little to no experience in related occupations; and ship engineers tend to require postsecondary vocational training to be considered for a position.

The United States Coast Guard (USCG) regulates most entry, training, and experience of these positions. Two certifications must be obtained by mariners in order for them to be on board most ships: the Transportation Worker Identification Credential (TWIC) and the Merchant Mariner Credential (MMC), though this credential is not needed by entry-level seamen or deckhands. In order to receive a TWIC, workers must be a US citizen or a permanent resident and have passed a security screening.[57]

Entry-level positions in water transportation occupations are those of ordinary seamen or deckhands. Short-term on-the-job training and experience are usually required, as well as a few days of basic training in first aid and firefighting.[58]

Education and experience can be accumulated in two different ways: through thousands of hours of experience while working as a deckhand or through graduating from the US Merchant Marine Academy. In both instances, an exam is required, and according to the Bureau of Labor Statistics, "it is difficult to pass the exam without substantial formal schooling or independent study."[59]

Officers on supply boats, inland waterways, and rivers usually obtain their positions through years of experience, while officers on deep-water vessels usually obtain their positions by graduating from an academy.[60]

Advancement requires passing the exams and accumulating experience. Through experience, assistant engineers and deck officers have the potential to become chief engineers or captains.[61]

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57 BLS, *Occupational Outlook Handbook*, "Water Transportation Occupations," http://www.bls.gov/oco/ocos247.htm.

58 BLS, *Occupational Outlook Handbook*, "Water Transportation Occupations."

59 BLS, *Occupational Outlook Handbook*, "Water Transportation Occupations."

60 BLS, *Occupational Outlook Handbook*, "Water Transportation Occupations."

61 BLS, *Occupational Outlook Handbook*, "Water Transportation Occupations."

General laborers

Table 13. Training needed and license/certification requirements for general laborers

Demand occupations subtitles	Occupation code	Most significant source of education or training	Occupational license/ certification required
Shoreside laborers (pipe and sprinkler)	53-7062	Short-term training and experience	
Cooks	35-2012	Long-term training and experience	
Field hands	47-2061	Moderate-term training and experience	Certification available
Construction laborers			
Marine yard workers			
Cleaners of vehicles and equipment	53-7061	Short-term training and experience	

Source: O*Net OnLine, "Summary of Reports for Laborers and Freight, Stock, and Material Movers, Hand," http://www.onetonline.org/link/summary/53-7062.00; "Summary Report for Construction Laborers," http://www.onetonline.org/link/summary/47-2061.00; "Summary Report for Cooks, Institution, and Cafeteria," http://www.onetonline.org/link/summary/35-2012.00; and "Summary Report for Cleaners of Vehicles and Equipment," http://www.onetonline.org/link/summary/53-7061.00.

Laborers receive the majority of their training on the job; however, formal training in apprenticeship programs is the best way to prepare for this occupation. Entry-level workers usually begin by helping experienced workers in cleaning and preparing the worksite and unloading materials. When opportunities arise, workers may learn more complex tasks such as how to operate tools and equipment. More formal education may be needed through short-term classes, depending on the employer. In any case where workers are using toxic chemicals or dangerous equipment, Occupational Safety and Health Administration (OSHA) safety training is required, and is usually provided by the employer.[62]

Multiple certifications are available for construction laborers. Advancement to other construction positions is possible through training and experience. Skills important to advancing within the construction industry include facility with computers, the ability to communicate in both English and Spanish, and estimating skills for the quantity of materials needed to complete a job, and the

[62] BLS, *Occupational Outlook Handbook*, "Construction Laborer," http://www.bls.gov/ooh/construction-and-extraction/construction-laborers-and-helpers.htm.

timing and cost of a job. Higher positions include construction supervisors or general contractors.[63]

Marine and heavy equipment maintenance and repair technicians

Table 14. Training needed and license/certification requirements for marine and heavy equipment maintenance and repair technicians

Demand occupations subtitles	Occupation code	Most significant source of education or training	Occupational license/ certification required
Welders	51-4121	Postsecondary vocational	Certification available
Machinists	51-4041.00	Long-term training and experience	
Fitters	51-4121.06	Postsecondary vocational	Certification available
Engine room assistants	49-9098	Short-term training and experience	
Mechanics (heavy equipment)	49-3042	Postsecondary vocational	

Source: O*Net OnLine, "Summary Report for Machinists," http://www.onetonline.org/link/summary/51-4041.00; "Summary Report for Welders, Cutters, and Welder Fitters," http://www.onetonline.org/link/summary/51-4121.06; "Summary Report for Helpers—Installation, Maintenance, and Repair Workers," http://www.onetonline.org/link/summary/49-9098.00; and "Summary Report for Mobile Heavy Equipment Mechanics, Except Engines," http://www.onetonline.org/link/summary/49-3042.00.

Depending on the industry and required level of knowledge, formal education may or may not be needed for maintenance and repair technicians. Although formal training is available, many companies provide on-the-job training for many of these occupations. Knowledge in mechanics, diesel engines, transmissions, electrical systems, computers, and hydraulics is important and is considered by companies when hiring.[64]

Entry-level technicians conduct minor repairs and routine services within a few months of on-the-job training. Through time and proof of ability, more complex

63 BLS, *Occupational Outlook Handbook*, "Construction Laborer."

64 BLS, *Occupational Outlook Handbook*, "Heavy Vehicle and Mobile Equipment Service Technicians." http://www.bls.gov/ooh/installation-maintenance-and-repair/heavy-vehicle-and-mobile-equipment-service-technicians.htm.

tasks are given to technicians, and with three to four years of on-the-job experience, technicians are considered fully qualified.[65]

Because of the complicated technology used in heavy equipment, knowledge of computers and electronics is considered highly important. Technicians are also required to read and interpret service manuals; therefore, literacy is also required.[66]

Certifications in these occupations are usually specific to repairs or particular equipment. Postsecondary vocational programs are considered the best method of preparation.[67]

Through experience, technicians can advance to field service jobs—higher-paying positions with a greater amount of independence. Other advancements include positions as shop supervisors or service managers.[68]

Machinists

Machinists can be trained formally at schools or informally, through on-the-job training. Most workers who enter this occupation have experience working as machine setters, operators, or tenders; however, many learn on the job and in classroom settings.[69]

Certification courses are available and provide greater opportunities for advancement. Machinists usually are required to undertake continual training throughout their working years in order to keep their skills current with new machines.[70]

Advancement opportunities are varied and include positions such as computer numerically controlled (CNC) programmers, tool and die makers, or mold makers.[71]

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65 BLS, *Occupational Outlook Handbook*, "Heavy Vehicle and Mobile Equipment Service Technicians."

66 BLS, *Occupational Outlook Handbook*, "Heavy Vehicle and Mobile Equipment Service Technicians."

67 BLS, *Occupational Outlook Handbook*, "Heavy Vehicle and Mobile Equipment Service Technicians."

68 BLS, *Occupational Outlook Handbook*, "Heavy Vehicle and Mobile Equipment Service Technicians."

69 BLS, *Occupational Outlook Handbook*, "Machinists and Tool and Die Makers," http://www.bls.gov/oco/ocos223.htm.

70 BLS, *Occupational Outlook Handbook*, "Machinists and Tool and Die Makers."

71 BLS, *Occupational Outlook Handbook*, "Machinists and Tool and Die Makers."

Welders

Welders, like machinists, can gain training either through school or through on-the-job experience. For lower-skilled positions, several weeks of school or training are all that may be needed; higher-skilled positions require several years of school and training.[72]

Postsecondary vocational schools, community colleges, and private welding schools offer formal welding programs. Most companies prefer hiring formally trained welders; some are willing to train inexperienced workers for entry-level positions.[73]

Courses in blueprint reading, shop mathematics, mechanical drawing, physics, chemistry, and metallurgy are helpful in this occupation, as is knowledge of electricity and computers.

General welding certifications or specific skill certifications, such as those in inspection or robotic welding, may be required in some positions. The American Welding Society certifications can be found at formal training schools, while some companies provide their own certification courses and tests.

As welders gain experience and training, they may have the opportunity to advance into higher-skilled positions such as welding technicians, supervisors, inspectors, or instructors.[74]

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[72] BLS, *Occupational Outlook Handbook*, "Welders, Cutters, Soldering, and Brazing Workers," http://www.bls.gov/ooh/production/welders-cutters-solderers-and-brazers.htm.

[73] BLS, *Occupational Outlook Handbook*, "Welders, Cutters, Soldering, and Brazing Workers."

[74] BLS, *Occupational Outlook Handbook*, "Welders, Cutters, Soldering, and Brazing Workers."

Light equipment operators

Table 15. Training needed and license/certification requirements for light equipment operators

Demand occupations subtitles	Occupation code	Most significant source of education or training	Occupational license/ certification required
Tractor operators	53-7051	Short-term training and experience	

Source: O*Net OnLine, "Summary Report for Industrial Truck and Tractor Operators," http://www.onetonline.org/link/summary/53-7051.00.

Light equipment operators are usually not required to have formal training. Employers usually use on-the-job training to prepare workers for these positions; skills are learned by watching experienced workers. Employers prefer workers with a high school degree, but are more concerned about a worker's physical performance.[75]

OSHA requires specialized safety training if operators are handling toxic materials or using industrial trucks; most companies provide this training.[76]

Certifications for specific types of machinery, such as cranes, are also available. These certifications are required only in some states; however, New Orleans is one of six cities that require crane certification. Individual companies may also require certifications even if the state or city does not. The National Commission for the Certification of Crane Operators is a professional organizational that provides these credentials.[77]

With experience and training, operators may be able to advance as trainees to jobs including construction trades workers, assemblers, other production workers, or motor vehicle operators. They may also have the opportunity to become supervisors.[78]

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75 BLS, *Occupational Outlook Handbook*, "Material Moving Machine Operatorss," http://www.bls.gov/ooh/transportation-and-material-moving/material-moving-machine-operators.htm.

76 BLS, *Occupational Outlook Handbook*, "Material Moving Machine Operators."

77 BLS, *Occupational Outlook Handbook*, "Material Moving Machine Operators."

78 BLS, *Occupational Outlook Handbook*, "Material Moving Machine Operators."

Management and supervisory professionals

Table 16. Training needed and license/certification requirements for management and supervisory professionals

Demand occupations subtitles	Occupation code	Most significant source of education or training	Occupational license/ certification required
Project managers	17-2051	Bachelor's degree	License required
Project engineers			
Construction supervisors	47-1011	Work experience in a related occupation	

Source: O*Net OnLine, "Summary Report for Civil Engineers," http://www.onetonline.org/link/summary/17-2051.00, and "Summary Report for First-Line Supervisors of Construction Trades and Extraction Workers," http://www.onetonline.org/link/summary/47-1011.00.

Management and supervisory professionals are usually required to have a bachelor's degree to be hired. However, many years of experience and completion of field-related classes can promote entry-level workers to managers. Understanding contracts, plans, specifications, and regulations is important for managers.[79]

Construction managers usually work as craft workers (for example, as carpenters, masons, plumbers, or electricians, as well as other construction jobs) before entering into management.[80]

Today, greater importance is placed on formal education for management positions. More than 100 colleges offer bachelor's degree programs in construction fields, and several two-year colleges offer training and education programs in the industry as well.[81]

Certification is not required in the construction industry; however, companies hiring workers will determine an individual's competence in the industry during the selection process.[82]

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79 BLS, *Occupational Outlook Handbook*, "Construction Managers," http://www.bls.gov/oco/ocos005.htm.

80 BLS, *Occupational Outlook Handbook*, "Construction Managers."

81 BLS, *Occupational Outlook Handbook*, "Construction Managers."

82 BLS, *Occupational Outlook Handbook*, "Construction Managers."

Training programs and providers

As indicated in this section, formal training may not be necessary to gain entry-level access to many of the RLMA 1 and 3 demand occupations. However, for most of these occupations, formal training opportunities with short-, mid-, and long-term durations exist throughout the six-parish area.

Table 17 (on the following page) catalogs, by demand occupation, the various training programs and training providers and their locations that are available in the six-parish area.

Table 17. Mapping of training programs and providers for targeted demand occupations

Demand occupation subtitles	Occupational code	Training available	Closest training provider(s)
Quality control technicians	51-9061	Construction quality management (CQM) certification	US Army Corp of Engineers—New Orleans District
Marsh excavator operators, dozer operators, heavy equipment operators	47-2073	Certification of technical studies degree—heavy construction vehicle operator	Northwest Louisiana Technical College—Minden, LA
		Heavy equipment operator (operating engineer) apprenticeship	Operating Engineers Local 406, South East Louisiana Building & Construction Trades Council, AFL-CIO
Captains and mates	53-5021	Associate's degree in marine science/Merchant Marine officer	L.E. Fletcher Technical Community College
		Award of at least one but less than two academic years in marine science/Merchant Marine officer	South Central Louisiana Technical College—Young Memorial Campus
Ship engineers	53-5031		
Licensed mariners, oilers, shoremen, deckhands, able-bodied seamen	53-5011	48-hour able seaman course	South Central Louisiana Technical College—Young Memorial Campus
		Hazardous Waste Operations and Emergency Response	
		Certification of technical studies degree—marine operations	L.E. Fletcher Technical Community College
			South Central Louisiana Technical College—Young Memorial Campus
Cooks	35-2012	Food preparation/professional cooking/kitchen assistant program	Delgado Community College
Construction laborers	47-2061	Predominantly on-the-job	Industry employers
Welders/fitters	51-4121	Welding technology/welder	Delgado Community College
			L.E. Fletcher Technical Community College
			Louisiana Technical College—Jefferson Campus
			Louisiana Technical College—West Jefferson Campus
			South Central Louisiana Technical College—Young Memorial Campus
			Northshore Technical College—Sullivan Main Campus
Machinists	51-4041	Machine tool technology/machinist	Delgado Community College
			L.E. Fletcher Technical Community College
			Northshore Technical College—Sullivan Main Campus
Engine room assistants	49-9098	Predominantly on-the-job	Industry employers
Mechanics (heavy equipment)	49-3042	Diesel-powered equipment technician	South Central Louisiana Technical College—Young Memorial Campus
			Delgado Community College
		Marine diesel technician	L.E. Fletcher Technical Community College
Port engineers	53-5031	Associate's degree in marine science/Merchant Marine officer	L.E. Fletcher Technical Community College
		Award of at least one but less than two academic years in marine science/Merchant Marine officer	South Central Louisiana Technical College—Young Memorial Campus
Tractor operators	53-7051	Predominately on-the-job	Industry employers
Project managers	17-2051	B.S. civil engineering	University of New Orleans
Construction supervisors	47-1011	Award of at least one but less than two academic years in related trade	Louisiana technical colleges

Characteristics of coastal parishes

Unemployed and underemployed populations

Data analysis

The number one factor in determining a community's vulnerability to a disaster is poverty; however, the race, ethnicity, gender, and special needs of residents also play a part in how a community copes with hazards.[83] When looking at the geographical locations specific to this report (Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, and Terrebonne parishes), the minority population makes up 31.2 percent of the total population, while the total female population makes up 51.5 percent.[84]

Out of 1,043,498 people within these six parishes, 35,417 are unemployed, with an area average unemployment rate of 6.7 percent. The average female unemployment rate in these parishes is 7.3 percent, the average minority unemployment rate is 13 percent, and the average African-American unemployment rate is 14.3 percent.[85]

The minority labor force is made up of African-Americans, American Indians or Alaskan Natives, Asians (Japanese, Chinese, Filipinos, Koreans, Vietnamese, or other Asians), Hawaiians and Pacific Islanders, and Hispanics. In the six parishes, the total female minority unemployed population is equal to 11,174, while the total male minority unemployed population is 10,125. African-Americans make up more than 85 percent of the total minority unemployment population.[86]

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83 Kate Gordon, Jeffrey Buchanan, and Philip Singerman, "Beyond Recovery: Moving the Gulf Coast Toward a Sustainable Future" (Center for American Progress/Oxfam America, 2011), http:www.americanprogress.org/issues/2011/02/beyond_recovery.html; Oxfam America, "Exposed: Social Vulnerability and Climate Change in the US Southeast" (2009), http://www.oxfamamerica.org/files/Exposed-Social-Vulnerability-and-Climate-Change-in-the-US-Southeast.pdf; and John Cooper and Jasmine Waddell, "Impact of Climate Change on Response Providers and Socially Vulnerable Communities in the US," Oxfam America Research Backgrounder series (2010), http://www.oxfamamerica.org/files/impact-of-climate-change-on-response-providers-and-socially-vulnerable-communities-in-the-US.pdf.

84 Louisiana Workforce Commission (LWC), "Louisiana Labor Force Diversity Data for 2011," http://www.laworks.net/Downloads/Employment/AffirmativeActionPublication_2011.pdf.

85 LWC, "Louisiana Labor Force Diversity Data for 2011."

86 LWC, "Louisiana Labor Force Diversity Data for 2011," 21 and 23 (data is from 2010).

When unemployment insurance claimant characteristics are analyzed and narrowed down by industries associated with ecosystem restoration,[87] the highest number of unemployment insurance claims in these industries came from workers in construction and construction/extraction.[88] A total of 1,109 claims were made in the construction industry in the six parishes, with 1,045 derived from Jefferson Parish. Construction/extraction had a total of 1,674 claims in the six parishes, with 1,097 coming from Jefferson Parish. Installation, maintenance, and repair industries had a total of 663 claims in the six parishes; farm, fishing, and forestry had 36 claims; and agriculture/forestry and fishing/hunting had a total of 20 claims. Out of the industries mentioned, St. Bernard Parish had only two claims in all five industries.[89]

It is generally assumed, however, that many of the targeted individuals eligible for training are not connected to unemployment insurance and are therefore underrepresented in these measures. For example fisherfolk, many of whom are self-employed or work seasonally might not be eligible for unemployment insurance. Moreover, across the three Gulf states of Louisiana, Mississippi, and Alabama, 20,000 fishermen are non-English speaking Vietnamese, and 30-50 percent of all seafood-related jobs are held by Vietnamese-American workers. There are also issues in the Latino population with workers and documentation. Undocumented workers have some of the highest vulnerability to disasters.[90]

Qualitative analysis

Commercial fishing and seafood industry workers still feel the effects of the Deepwater Horizon oil spill. These workers represent a notable portion of the unemployed population that resulted from the oil spill. Prior to the spill, a total of 43,711 Louisiana jobs were held in the fishing industry, but afterward, thousands of workers lost not only their jobs, but also their way of living.[91]

Pride and self-sufficiency are two common characteristics found in those individuals who are unemployed because of the oil spill. Many workers from the Catholic Charities of the Archdiocese New Orleans' training program did not file

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87 These industries are classified as "agriculture/forestry and fishing/hunting" and "construction." Occupations within these industries include farming, fishing, and forestry; construction and extraction; and installation, maintenance, and repair. See LWC, "Louisiana Labor Force Diversity Data for 2011," 99.

88 LWC, "Louisiana Labor Force Diversity Data for 2011."

89 LWC, "Louisiana Labor Force Diversity Data for 2011."

90 Gordon, "Beyond Recovery."

91 Gordon, "Beyond Recovery," and Social Science Research Council, "Mapping the Measure of America," http://www.measureofamerica.org/maps/ (accessed January 2011).

BP claims because of fear of being looked down upon for receiving a "handout," and many clients of Catholic Charities say they are ashamed to ask for money from charities.[92] These unemployed workers are also leery of the government looking at their finances, especially their taxes and income, because some do not file or have tax identification numbers.[93]

GNO, Inc.'s fisheries focus group discovered that few fishermen were interested in looking for new jobs outside the fishing industry, yet many were currently out of work. According to Executive Director, Rebecca Martin from the St. Bernard Economic Development Foundation, the work in the Vessels of Opportunity Program, developed by BP to employ fishermen in the cleanup process, was distributed unevenly. Fishermen in some parishes received work equitably, while other parishes did not receive any work hours.[94] Therefore, some fishermen received thousands of dollars while others signed contracts but never engaged in cleanup work. These contracts and the expectation of work keep fishermen from looking for new careers.[95]

Based on GNO, Inc.'s focus groups, few fishermen are interested in leaving their industry and most are committed to fishing for life. They like the idea of being captain of their own boat and are hesitant about the idea of a boss; however, they are interested in jobs that would allow them to continue working on the water with-in restoration work.[96]

If they had to switch industries, fishermen desire a career that is familiar to them. For it to be appealing, wages would need to support a middle-class lifestyle. Unemployed and underemployed Vietnamese fishermen show interest in agriculture where they can earn high wages and start new businesses.[97]

According to the GNO, Inc. focus groups, past work experience and ethnicity seem to play a major part in the types of job interest among fishermen. As a generalization, Latin Americans showed interest in all industries and opportunities related to new careers. African-American captains showed interest

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92 Britain Westbrook, Workforce Development Coordinator, Catholic Charities Archdiocese New Orleans, January 4, 2012, NGO focus group conducted by SSA Consultants.

93 Westbrook, NGO focus group.

94 Rebecca Martin, Executive Director, St. Bernard Economic Development Foundation, January 4, 2012, NGO focus group conducted by SSA Consultants.

95 Jeremy Stone, "Fisheries Focus Groups: A Summary and Discussion of Findings" (GNO, Inc./Chevron Coastal Vitality Project, 2010), http://www.coastalvitalityproject.org/GNO_FishermensFocusGroup.pdf.

96 Stone, "Fisheries Focus Groups."

97 Daniel Nguyen, Project Manager, Mary Queen of Vietnam, January 4, 2012, NGO focus group conducted by SSA Consultants.

in heavy machinery opportunities, like operating cranes. Cambodian-Americans showed interest in starting new businesses including grocery stores, restaurants, liquor stores, and donut shops. Caucasian fishermen and seafood purveyors showed the least amount of interest in new career opportunities.[98]

According to Catholic Charities, fishermen of the Des Allemands community in St. Charles Parish have been fishing all of their lives.[99] It is their life, and they plan on staying in the industry until they die. Many fishermen adamantly say that they want to continue fishing and that they are not interested in other types of workforce development training, while others who are more mechanically inclined are interested in workforce development training.[100] Ultimately, the more aligned the opportunities are with fishermen's boats or the coastline, the more commercial fishermen seem interested in the opportunities.[101]

Transferable skills or training

The commercial fishermen found along the coast of Louisiana are highly regarded for their industriousness as well as for their commitment to assisting with the continuity of their family businesses. However, these notable attributes have resulted in a lack of need for, as well as access to, educational and workforce development opportunities. A lack of formal education is noted in the commercial fishing industry because many workers leave the education system to begin working with family, and the nature of the work does not call for additional formal training through traditional workforce development mechanisms. The combination of these factors means that commercial fishermen do not necessarily possess a large number of transferable skills and that they will need "significant investments of training and resources in order to transition."[102]

Current skill sets that were redeemable relative to ecosystem restoration industries include captaining boats, mechanics, construction, and welding. However, because these skills have been practiced by commercial fishermen

98 Stone, "Fisheries Focus Groups."

99 Westbrook, NGO focus group.

100 Westbrook, NGO focus group.

101 Stone, "Fisheries Focus Groups."

102 Stone, "Fisheries Focus Groups," 9.

throughout their careers in an informal manner, they often lack proper and formal training, education, and certifications in these areas.[103]

For example, even though commercial fishermen may have captained a fishing boat for years, this skill may not transfer directly to other sea-based jobs. Sea-based jobs require captains to have a license and be trained for specific classes of boats.[104]

GNO, Inc. (in partnership with Coastal Communities Consulting and Delgado Community College) has undertaken a pilot marine training program to provide select Coast Guard certifications for fishermen impacted by the oil spill.

[103] Stone, "Fisheries Focus Groups."

[104] Stone, "Fisheries Focus Groups."

Obstacles to employment and training

Creating a job-training program is not enough. Success requires addressing the needs of unemployed and underemployed workers in these disadvantaged coastal communities. Making training available to low-income residents is the goal behind workforce development.[105]

Age, education, language, and lack of formal employment histories are all obstacles that Louisiana's most vulnerable unemployed and underemployed residents face when looking for work and accessing training.[106] To address these factors, workforce development programs need to make sure that the locations of programs are accessible, that the programs utilize referrals to support services, that programs conduct outreach to disadvantaged and underemployed populations, and that these programs build effective relationships with industry.[107]

A common individual goal in the commercial fishing industry is to become a boat captain—a reflection of the job's high demand and generous wages.[108] But, as previously stated, captains in other sea-based jobs are required to have specific licenses based on the class of boat and certifications.[109]

Boat captains, deckhands, and oyster shuckers are applying for other types of work through temporary employment agencies. However, most of their skills are not transferable to other industries; this creates major obstacles in entering new careers. This challenge is seen most in the Vietnamese community, where English is not the first language. Language barriers is one of the major obstacles in unemployed and underemployed populations when looking for new employment and relevant training. As mentioned earlier, 20,000 fishermen in three of the Gulf Coast states are non-English speaking Vietnamese.[110]

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105 Oxfam America, "Recommendations to the Gulf Coast Ecosystem Restoration Task Force."

106 Stone, "Fisheries Focus Groups."

107 Oxfam America, "Recommendations to the Gulf Coast Ecosystem Restoration Task Force."

108 Westbrook, NGO focus group.

109 Greater New Orleans, Inc. (GNO, Inc.), "Guide to Basic Licenses and Endorsements in the US Maritimes," http://www.coastalvitalityproject.org/wp-content/uploads/2011/01/Guide-to-Basic-Licenses-and-Endorsements-in-the-US-Maritimes.pdf.

110 Gordon, "Beyond Recovery."

On fishing boats, fishermen use signal horns and other ways of communicating that don't require spoken language. However, in other jobs, such as operating machinery, being able to speak English is crucial, especially for safety. In some cases, being able to speak English is a prerequisite for training programs and is the deciding factor at some job fairs.[111]

Transportation is another major obstacle in accessing training. Workers are scattered throughout the region, making it difficult for some communities to access community and technical colleges and other training programs offered by private training providers. Such communities include Point à la Hache. Training could be 20 or 30 minutes away, and commuting is difficult because of recent repossessions and high gas prices. For unemployed women, while there was no evidence of gender bias from the industry representatives, a major obstacle is the fact that many of the fishermen's wives worked at bookkeeping from home and are not now interested in obtaining jobs outside of the home.[112]

Participants in GNO, Inc.'s focus groups indicated that even though they had other skills besides fishing, certain barriers prevent them from getting jobs in new industries. These obstacles include the absence of certifications and proven work history demonstrating other skills, the inability to pass tests for such certifications because of unfamiliar terminology, and the lack of traditional book knowledge.[113]

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111 Nguyen, NGO focus group.

112 Westbrook, NGO focus group.

113 Stone, "Fisheries Focus Groups."

Findings and recommendations

Finding 1: Insufficient collaboration makes it difficult to administer NEG funds.

The oil spill NEG funds, which provide for training and workforce development for employers and workers affected by the Deepwater Horizon oil spill, are scheduled to expire on June 30, 2013. According to WIB Administrators, as of 2011, approximately 300 of the projected 1,200 individuals identified as eligible for these funds have utilized them, and roughly $8.5 million of the original $10 million was still available. The remaining funds will be de-obligated if they are not spent by June 30, 2013.

The local WIBs, which are charged with administering the NEG funds, have had a difficult time identifying, qualifying, and enrolling displaced workers in eligible training programs for several reasons: the stringent eligibility requirements of the NEG funds create significant challenges; the time-intensive and arduous task of administering the funds on a case-by-case basis has limited their use; and, lastly, the reluctance by many of those affected by the oil spill to enter into new professions or to work in industries that are unfamiliar to them has reduced the availability of qualified workers.

The LWC has been granted a modification request to extend eligibility requirements to the long-term unemployed and to extend the grant for another year by the USDOL. The challenge to identify, qualify, and enroll potential workers in training programs by the new cutoff date remains (June 30, 2013). Clearly, time is of the essence as it relates to administering the NEG funds.

Furthermore, the local WIBs have had a difficult time identifying specific dredging industry demand occupations and training that qualify for NEG funds. The demand occupations are an important component in qualifying individuals for the funds and training programs because, as noted, all training assistance must be tied directly to a Level 1 demand occupation in the RLMA where a potential applicant is domiciled. Fortunately, many of the demand occupations, as described by dredging companies and subcontractors and as outlined in this report, are classified as Level 1 demand occupations. As such, these occupations serve as the basis of eligibility for NEG funds and should be the targeted occupations by all stakeholders going forward.

In addition to the challenges facing the WIBs in administering the funds, many NGOs, economic development organizations (EDOs), employers, and displaced workers are unaware of the existence of NEG funds. Furthermore, many of those

who are aware of the training funds lack understanding of how the funds are administered. It is largely unknown who might be eligible for funding, how or where to apply for training assistance, what types of assistance are available for on-the-job training, and so on. This lack of understanding leads to the conclusion that communication and collaboration among the various stakeholders (local WIBs, NGOs, employers, CPRA, and training providers)—at least in terms of the administration of NEG funds—is insufficient. The missing link appears to be a single point of contact and a single strategy to organize the various efforts of all parties involved and to connect qualified individuals with the training resources available.

Recommendation 1: Develop and fund resources to coordinate efforts, improve communications, and implement strategies.

A global outreach strategy to coordinate all parties who will play a role in the coastal restoration projects—WIBs, training providers, employers, CPRA, NGOs, and EDOs—is needed. Resources should be identified to help coordinate the strategy, which should be designed to promote communication and collaboration between all relevant parties. As part of the strategy, regular meetings and/or symposiums should be scheduled to ensure that all parties are aware of the scope and timing of projects, workforce development needs and grants, available resources, future initiatives, and employer services—as well as the roles and efforts of each party involved.

Given that the NEG funds must be administered on a case-by-case basis, and that there is no funded outreach program to locate qualified individuals, the process taken to identify, qualify, and enroll potentially eligible applicants for training assistance should be undertaken in a similar manner.

The following recommendations are not mutually exclusive and should occur simultaneously.

Recommendation 1.1: Fund and promote additional NGO outreach and case management services to identify displaced workers; assess skills, barriers, and challenges; and link potential applicants with local WIBs.

According to the NGOs that participated in this study, there are displaced workers in the six-parish study area who are seeking employment. Many of these individuals were not previously attracted to employment outside of the fishing industry, but because of insufficient BP payments or because they were disqualified from these payments, along with mounting debt and months of

subpar or no income, they have decided to seek employment outside of the fishing industry.

It should be a priority to find and coordinate resources for NGOs that are embedded in the six parish areas to identify and case manage unemployed and underemployed workers who may be interested in career opportunities in the dredging industry and who potentially qualify for training assistance. This undertaking can be achieved by working closely with local WIBs and the NGOs in the six parishes that have been previously effective in case management services. This process should begin with a visit to the NGO representatives identified in this report, specifically those NGOs whose members have expressed a willingness to consider other occupations. For example, the Catholic Charities staff who work with the Des Allemands fishers, mentioned that the fishermen are desperate for assistance and hope. Some of the members of Mary Queen of Vietnam Community Development Corporation have expressed interest in capitalizing on the transferable skills they acquired through their many years of fishing and agricultural pursuits. The St. Bernard Economic Development Foundation provides parish citizens with information on an array of topics including workforce development and workforce incentive programs. These are the people who need to receive training before the NEG funds expire.

It is recommended that the interaction with NGOs and their members include a discussion about Level 1 demand occupations, which have been outlined in the "Demand Occupations with Decent Wages" section of this report, to gauge their interest in specific occupations that are in high demand in their respective communities. The NGO case managers and representatives must explain the career pathways that are available for each position (outlined in the "Training and Career Pathway Opportunities" section of this report) to their constituents. Then, the case managers must work closely with those individuals who are interested in exploring new career opportunities by developing an employment plan that focuses on accessing the safety and other related trainings needed, and contacting the Louisiana Community and Technical College System (LCTCS) or other training providers to design and deliver classes in a location convenient to the participants. The alternative is outlined in Recommendation 1.2.

Recommendation 1.2: Local WIBs must take the lead on individual training and development in order to access dedicated workforce development funds; therefore, NGOs and WIBS should make connections and communicate frequently.

The results of the intensive case management services offered by the NGOs as outlined in the previous recommendation should lead to the identification of an individual or a pool of individuals who may be eligible for training assistance based on their displacement status and their interest in specific Level 1 demand occupations. These individuals must be introduced to local WIB representatives who can begin the process to qualify an individual for NEG funding. Local WIBs must be supplied with the list of Level 1 industry-specific demand occupations. The local WIBs are familiar with their respective pools of unemployed and underemployed workers and may be able to identify additional prospective applicants.

Once the determination is made as to whether an individual qualifies for NEG-funded training, the next step is for the WIBs to create an account that will serve as a funding vehicle for implementing the training a worker needs to obtain a specific demand occupation. Many of the employers who participated in this research project agreed that most of, if not all of, the demand jobs require safety training and involve a significant amount of on-the-job training. Fortunately, training providers and programs offering safety training and other courses specific to the dredging industry are abundantly available throughout the six-parish area. According to several training providers interviewed during this project, the providers can easily customize training programs should a gap in training be identified or a specialized training course be needed. The local WIBs are familiar with workforce needs and existing training programs, and they should take the lead at this point in the process.

Recommendation 1.3: Improve coastal restoration industry engagement with local WIBs so that they can see the benefits of hiring displaced workers.

In addition to identifying individuals interested in new careers and engaging WIBs, WIBs and employers in the coastal restoration industry must continue to develop relationships with each other. Employers must be aware of individuals interested in employment and the role of the local WIBs in administering oil spill NEG funds and in matching workforce needs with available human capital. There is also a need for more education about NEG funds as well as how other grants can benefit an employer's workforce development needs in the form of on-the-job training and other training assistance.

The relationship between WIBs and industry is critical in matching qualified workers with employment opportunities. Organizations such as Coast Builders Coalition (CBC), a trade association composed of businesses working in Louisiana coastal restoration, and economic development organizations, such as GNO, Inc., should be utilized to make these linkages and help to identify large

potential employers that could take advantage of the NEG funds. However, it is important to note that many of the companies that will be hiring newly trained workers may be subcontractors to the members of CBC. All parties involved should remain actively engaged throughout the life cycle of the early NRDA projects because the need for workforce development does not stop when the oil spill NEG funds expire.

A government resource, a dedicated business group or association, or private contractor should be engaged and funded to ensure that these regular meetings and communications take place over time.

Finding 2: Project scope, timing, and sequencing influence workforce demand.

There will almost certainly be significant workforce demand within the dredging industry once the proposed early NRDA projects are awarded. Not all the projects will require dredging activities, but most will have a dredging component. However, the timing and sequencing of the projects will largely determine the overall magnitude of the workforce demand. Owing to the nature of the Early Restoration Plan and Environmental Assessment process, the timing and sequencing of early NRDA projects has not been settled at this time. Therefore, the timetables for the actual awarding and execution of the early NRDA projects will likely be longer than originally anticipated. This extended timetable will make administering the NEG funds for training related to early NRDA projects very challenging, mainly because the funds are scheduled to expire prior to the first project even goes to construction. Clearly, the process of identifying and training displaced workers must be improved to take advantage of the available federal workforce development funds.

In addition to the early NRDA projects, projects associated with the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA), the Gulf of Mexico Energy Security Act (GOMESA), and the 2012 Louisiana Master Plan will further increase workforce demands. Although the timing and sequencing of all projects are subject to change, the potential employment opportunities for local residents could extend across decades. Once the projects are awarded and preparations begin for construction, it will be important to have a qualified and developed local workforce to support the construction needs. Employers from the dredging industry confirmed an overall shortage of industry experience residing in the local workforce. For these reasons, training and workforce development are key, regardless of whether the training is funded by the oil spill NEG funds or other available grants.

Recommendation 2: Training resources and employment opportunities extend beyond the oil spill NEG funds. Louisiana Economic Development (LED) and CPRA should consider additional resources such as tax credits and selection criteria points for credit in NRDA proposals.

All currently available funding sources need to be utilized; creative incentives, such as tax credits , additional project criteria, and where applicable selection criteria points, should be proposed by LED, CPRA in conversation with the industry, to the legislature to to make it attractive for employers to hire local, displaced workers if awarded early NRDA projects. Although it is critical to develop and implement a strategy that addresses the urgency of administering oil spill NEG funds, equal importance needs to be placed on developing similar strategies that will address the long-term workforce development needs of the industry. The long-term strategy should be centered on how to achieve a local qualified, trained, and experienced workforce to support future coastal restoration projects, regardless of whether the project is an early NRDA, CWPPRA, GOMESA, or 2012 Louisiana Master Plan project or an independent coastal restoration project. The potential workforce demand for these projects could be enormous. If a displaced worker is able to participate and perform well in one of the initial projects, he/she will acquire training, skills, certifications, and experiences that are portable, allowing the worker to grow professionally within an organization and the industry. Local stakeholders, the industry, state agencies, and state legislature need to work together to make hiring locally a priority. If and when the fishing industry returns to the capacity it enjoyed prior to the oil spill, displaced fishermen and fisherwomen who gained experience in another industry will then have two careers from which to choose.

Finding 3: Opportunities for career advancement are plentiful within the coastal restoration industry.

According to several employers in the industry focus group, potential for upward mobility within the industry is significant. Because experience and acquired skills are the primary qualifiers for promotions, it is not uncommon to find a well-paid ship captain who started his career as a deckhand. Chris Watters, human resources executive for Bean Dredging, mentioned that one of his company's boat captains started his career as a cook. Employers place emphasis on training and retaining their existing workforce and human capital, especially during a business slowdown period. Some large organizations resist laying off workers during economic downturns to retain their investment in these workers for future business upturns. Training incumbent workers allows for advancement within an organization, and means significant wage and salary

increases to the workers involved. [114] When the LWC's Incumbent Worker Training Program (IWTP) was mentioned during the industry focus group, several employers wanted to learn more about the training opportunities available through the program.

Recommendation 3: Once displaced workers are identified and receive initial training, information sharing is critical in assisting dredgers and their subcontractors to identify and utilize currently available grants, reimbursement, and training program resources.

Many public, nongovernmental, and private organizations are interested in finding employment opportunities for displaced workers. More importantly, they would like to identify careers for displaced workers in the event the fishing industry does not return to its full capacity—or at least to the same capacity as prior to the oil spill—in the near future. One of the key ways to retain quality employees is by investing in them through ongoing training and education. Resources are needed to work closely with the WIBs, training providers, and employers to make sure all parties are educated about opportunities for collaboration and about little-known program offerings, such as the LWC's IWTP.

Recommendation 3.1: Provide training, real information, and actual case studies to NGOs regarding advancement opportunities and wage and salary potential for displaced workers.

Displaced workers are understandably cynical and skeptical of offers of training and employment that seem to require them to move backwards from their prior lucrative positions as business owners/entrepreneurs and boat captains. The companies that seek to hire workers, however, assert that once a worker is hired and begins to gain basic training and experience, he or she can move steadily from an entry-level position through midlevel jobs up to well-paid positions and long-term careers in the industry.

Trusted counselors within the NGOs and community-based organizations (CBOs) should be armed with case studies and information to help displaced workers and their families understand the potential and timelines involved in moving from entry-level positions to high-demand, high-paying positions. This

[114] Hollenbeck, K. "Is there a role for public support of incumbent on-the-job training" http://research.upjohn.org/cgi/viewcontent.cgi?article=1155&context=up_workingpapers.

counseling can help displaced workers recognize that they are not receiving a handout when they are offered training, and that solid performance and reliability in entry-level positions will eventually lead to career advancement and commensurate rewards.

Finding 4: Unanticipated numbers of skilled and trained workers are seeking employment in the targeted region and are competing for the same jobs as the workers displaced by the BP oil spill.

Mass layoffs, plant closures, a poor economy, and declared emergencies often result in an unanticipated influx of qualified workers looking for employment. For example, the closure of the Avondale Shipyard in Jefferson Parish is expected to be a significant blow to the local economy, and will potentially result in a large number of well-trained workers competing for dredging industry jobs. Once the largest employer in the state, with about 26,000 employees, the company is laying off a large number of workers, and has dedicated a staff member to connect the displaced workers with local WIBs and employers to expedite their hiring. Also, many of the skills required for advanced manufacturing, oil and gas, construction, and coastal restoration industries are immediately transferable and easily documented.[115] As can be seen, during business slowdown periods, the workforce from a slow industry will compete for jobs in a more active industry, crowding out the already-displaced workers and creating even more challenges to their integration and employment.

Recommendation 4: The LWC or one of the local WIBs should temporarily dedicate staff to work directly with NGOs, CBOs, and workers displaced by the oil spill who are eligible for NEG funds to connect them with the appropriate local WIBs (through June 30, 2013). Furthermore, NGOs and CBOs should dedicate staff to understand NEG funds and to work with the local WIBS. Given that this situation is directly related to the BP oil spill, BP should provide funding for this position.

The process of matching needs and workers must be flexible and continual because future events are difficult to predict. The LWC, in collaboration with the WIBs, needs to anticipate the employment challenges that a specific future event, such as a plant closure, presents to the oil spill displaced workers and then develop a plan to support all parties equitably.

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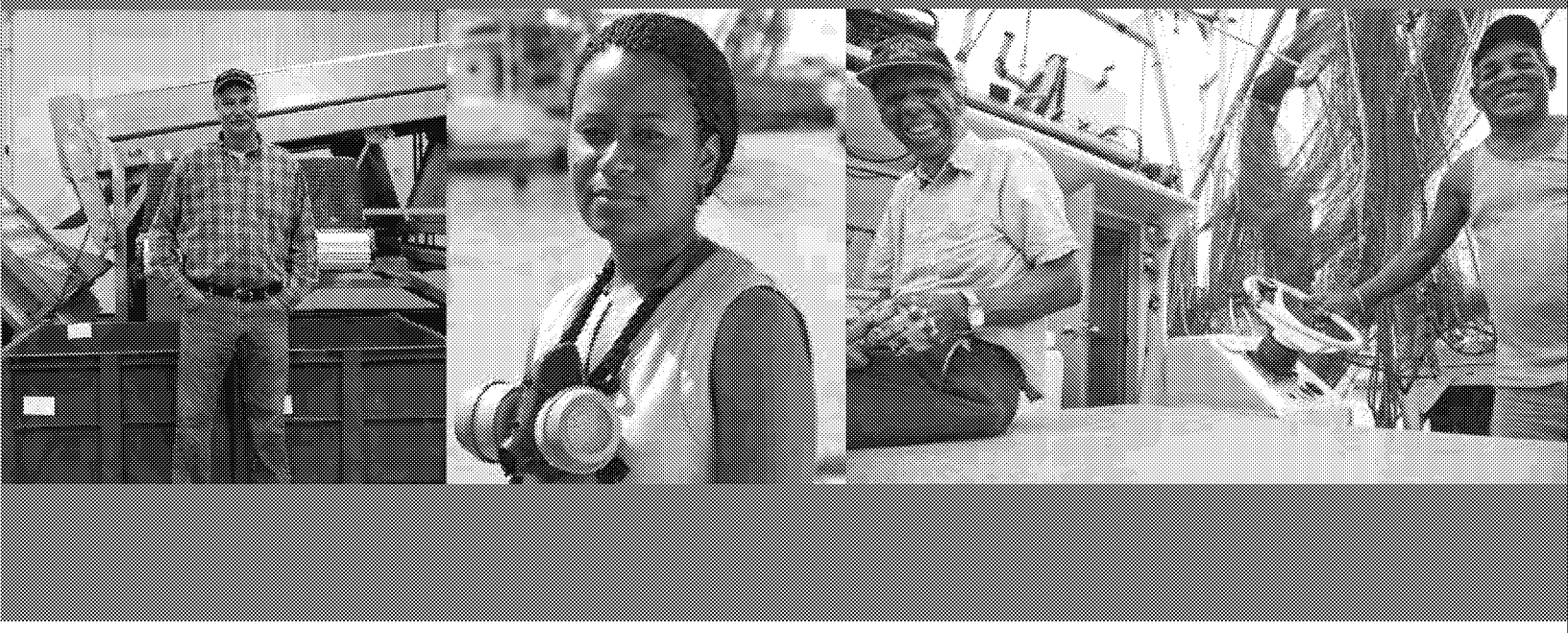
[115] Greater New Orleans, Inc. (GNO, Inc.), "Analysis of the Emerging Coastal Restoration, Hurricane Protection, Disaster Mitigation and Water Management Industries," 2011.



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